

1           1.       A system located on a client device for communicating data packets between  
2 the client device and a host system, the system comprising:  
3           a protocol server module structured and arranged to:  
4                terminate a communication session that uses a first protocol and that is  
5                intended to enable communications between a source and a destination, wherein the  
6                source is one of the client device operating system protocol stack and the host system  
7                and the destination is one of the client device operating system protocol stack and the  
8                host system but differs from the source,  
9                translate data packets from the source between the first protocol and a second  
10              protocol that differs from the first protocol, and  
11              transport the data packets having the second protocol to the destination; and  
12              a controller module that is logically connected to the protocol server module and that  
13 is structured and arranged to control communications between the client device operating  
14 system protocol stack, the protocol server module, and the host system.

1           2.       The system of claim 1 wherein the data packets include an encapsulation and  
2 the protocol server module translates the data packets by removing the encapsulation from  
3 the data packets.

1           3.       The system of claim 1 wherein the protocol server module translates the data  
2 packets by encapsulating the data packets using any one of several communication protocols  
3 that differs from the original protocol.

1           4.       The system of claim 2 wherein the protocol server module translates the data  
2 packets to further include encapsulating the data packets using any one of several  
3 communication protocols that differs from the original protocol.

1           5.       The system of claim 1 wherein the client device operating system protocol  
2 stack supports PPP.

1           6.       The system of claim 5 wherein the protocol server module includes a PPP  
2 server module located on the client device.

1           7.       The system of claim 6 wherein the PPP server module is structured and  
2 arranged to terminate a PPP communication session between the client device operating  
3 system protocol stack and the host system.

1           8.       The system of claim 6 wherein the PPP server module is structured and  
2 arranged to negotiate a PPP communication session with the client device operating system  
3 protocol stack.

1           9.       The system of claim 1 wherein the protocol server module and the controller  
2 module perform transparent to a sender of the data packets.

1           10.      The system of claim 1 wherein the protocol server module is structured and  
2 arranged to enable collection of data for error checking.

1           11.      The system of claim 1 wherein the protocol server module is structured and  
2 arranged to filter the data packets prior to transporting the data packets to the destination.

1           12.      The system of claim 1 further comprising a virtual modem adapter logically  
2 connected between the client device operating system protocol stack and the protocol server  
3 module.

1           13.    The system of claim 1 wherein the data packets include layer three data  
2   packets.

1           14.    A method for communicating data packets between a client device and a host  
2   system through a network, the method comprising:  
3           at the client device, terminating a communication session that uses a first protocol and  
4   that is intended to enable communications between a source and a destination, wherein the  
5   source is one of a client device operating system protocol stack and the host system and the  
6   destination is one of the client device operating system protocol stack and the host system but  
7   differs from the source;  
8           translating data packets from the source between the first protocol and a second  
9   protocol that differs from the first protocol; and  
10          transporting the data packets having the second protocol to the destination.

1           15.    The method as in claim 14 wherein the data packets include an encapsulation  
2   and translating the data packets includes removing the encapsulation from the data packets.

1           16.    The method as in claim 14 wherein translating the data packets includes  
2   encapsulating the data packets using any one of several communication protocols that differs  
3   from the original protocol.

1           17.    The method as in claim 15 wherein translating the data packets further  
2   includes encapsulating the data packets using any one of several communication protocols  
3   that differs from the original protocol.

1           18.     The method as in claim 14 wherein:  
2           terminating the communication session includes using a protocol server module to  
3 terminate the communication session;  
4           translating the data packets includes using the protocol server module to translate the  
5 data packets from the source between the first protocol and the second protocol; and  
6           transporting the data packets includes using the protocol server module to transport  
7 the data packets having the second protocol to the destination.

1           19.     The method as in claim 18 wherein the client device operating system  
2 protocol stack supports PPP.

1           20.     The method as in claim 19 wherein the protocol server module includes a PPP  
2 server module located on the client device.

1           21.     The method as in claim 20 wherein terminating the communication session  
2 includes using the PPP server module to terminate a PPP communication session between the  
3 client device operating system protocol stack and the host system.

1           22.     The method as in claim 20 wherein terminating the communication session  
2 includes using the PPP server module to negotiate a PPP communication session with the  
3 client device operating system protocol stack.

1           23.     The method as in claim 18 further comprising using a virtual modem adapter  
2 to interface between the client device operating system protocol stack and the protocol server  
3 module.

1           24.     The method as in claim 14 wherein terminating the communication session,  
2 translating the data packets, and transporting the data packets occur transparently to a sender  
3 of the data packets.

1           25.     The method as in claim 14 further comprising enabling collection of data for  
2 error checking.

1           26.     The method as in claim 14 further comprising filtering the data packets prior  
2     to transporting the data packets to the destination.

1           27.     The method as in claim 14 wherein the data packets include layer three data  
2     packets.

1           28.     A system located on a client device for communicating data packets between  
2     the client device and a host system, the system comprising:

3           a protocol server module structured and arranged to:

4                 terminate a communication session between a source and a destination,  
5                 wherein the source is one of a client device operating system protocol stack and the  
6                 host system and the destination is one of the client device operating system protocol  
7                 stack and the host system but differs from the source, and

8                 transport data packets to the destination through a network using any one of  
9                 several communication protocols; and

10           a controller module that is logically connected to the protocol server module and that  
11     is structured and arranged to control communications between the client device operating  
12     system protocol stack, the protocol server module, and the host system.

1           29.     The system of claim 28 wherein the protocol server module is structured and  
2     arranged to translate the data packets prior to transporting the data packets.

1           30.     The system of claim 29 wherein the data packets include an encapsulation and  
2     the protocol server module translates the data packets by removing the encapsulation from  
3     the data packets.

1           31.     The system of claim 29 wherein the protocol server module translates the data  
2     packets by encapsulating the data packets using any one of several communication protocols  
3     that differs from the original protocol.

1           32.     The system of claim 30 wherein the protocol server module translates the data  
2     packets to further include encapsulating the data packets using any one of several  
3     communication protocols that differs from the original protocol.

1           33.     The system of claim 28 wherein the client device operating system protocol  
2     stack supports PPP.

1           34.     The system of claim 33 wherein the protocol server module includes a PPP  
2     server module located on the client device.

1           35.     The system of claim 34 wherein the PPP server module is structured and  
2     arranged to terminate a PPP communication session between the client device operating  
3     system protocol stack and the host system.

1           36.     The system of claim 34 wherein the PPP server module is structured and  
2     arranged to negotiate a PPP communication session with the client device operating system  
3     protocol stack.

1           37.     The system of claim 28 wherein the protocol server module and the controller  
2     module perform transparent to a sender of the data packets.

1           38.     The system of claim 28 wherein the protocol server module is structured and  
2     arranged to enable collection of data for error checking.

1           39.     The system of claim 28 wherein the protocol server module is structured and  
2     arranged to filter the data packets prior to transporting the data packets to the destination.

1           40.     The system of claim 28 further comprising a virtual modem adapter logically  
2     connected between the client device operating system protocol stack and the protocol server  
3     module.

1           41.     The system of claim 28 wherein the data packets include layer three data  
2     packets.

1           42.     A method for communicating data packets between a client device and a host  
2     system through a network, the method comprising:

3                 at the client device, terminating a communication session between a source and a  
4     destination, wherein the source is one of a client device operating system protocol stack and  
5     the host system and the destination is one of the client device operating system protocol stack  
6     and the host system but differs from the source; and

7                 transporting data packets to the destination through the network using any one of  
8     several communication protocols.

1           43.     The method as in claim 42 further comprising translating the data packets  
2     prior to transporting the data packets.

1           44.     The method as in claim 43 wherein the data packets include an encapsulation  
2     and translating the data packets includes removing the encapsulation from the data packets.

1           45.     The method as in claim 43 wherein translating the data packets includes  
2     encapsulating the data packets using any one of several communication protocols that differs  
3     from the original protocol.

1           46.     The method as in claim 44 wherein translating the data packets further  
2     includes encapsulating the data packets using any one of several communication protocols  
3     that differs from the original protocol.

1           47.     The method as in claim 42 wherein:  
2                 terminating the communication session includes using a protocol server module to  
3     terminate the communication session; and  
4                 transporting the data packets includes using the protocol server module to transport  
5     the data packets to the destination through the network using any one of several  
6     communication protocols.

1           48.     The method as in claim 47 wherein the client device operating system  
2 protocol stack supports PPP.

1           49.     The method as in claim 48 wherein the protocol server module includes a PPP  
2 server module located on the client device.

1           50.     The method as in claim 49 wherein terminating the communication session  
2 includes using the PPP server module to terminate a PPP communication session between the  
3 client device operating system protocol stack and the host system.

1           51.     The method as in claim 49 wherein terminating the communication session  
2 includes using the PPP server module to negotiate a PPP communication session with the  
3 client device operating system protocol stack.

1           52.     The method as in claim 47 further comprising using a virtual modem adapter  
2 to interface between the client device operating system protocol stack and the protocol server  
3 module.

1           53.     The method as in claim 42 wherein terminating the communication session  
2 and transporting the data packets occur transparently to a sender of the data packets.

1           54.     The method as in claim 42 further comprising enabling collection of data for  
2 error checking.

1           55.     The method as in claim 42 further comprising filtering the data packets prior  
2 to transporting the data packets to the destination.

1           56.     The method as in claim 42 wherein the data packets include layer three data  
2 packets.